REMARKS

1.   Telephone Interview Summary

Applicant and their attorneys thank the Examiner for the courtesy extended during the telephonic interview on April 4, 2006. The substance of the interview consisted of Applicant explaining the two-level spreading arrangement claimed in claim 1, and proposing a clarifying changes to claim 1. The Examiner agreed to consider Applicant's explanation and proposed amendments, both of which are presented in this Amendment and Response.

2.   Nonobviousness of Claims 1-10

Claims 1-8 stand rejected. By this Amendment, claims 1 and 2 are amended, and new claims 9 and 10 are added. Claims 1-10 are now presented for reconsideration and allowance.

Claim 1 has been rejected under 35 U.S.C. § 103(a) as being obvious in view of U.S. Pat. No. 6,088,347 to Minn et al, in combination with U.S. Pat. No. 5,950,124 to Trompower et al. The Minn et al. patent describes spread spectrum modulation in which first and second input signals are each modulated by different direct-sequence spreading codes that have low cross-correlation with one another. The Minn et al. patent describes the well-known technique of modulating an information signal with a user-specific code (e.g. Walsh code) and a cell-specific code (e.g. PN code). For a particular information signal, the user-specific code and the cell-specific code can be different (col. 12, lines 40-43).

The Trompower et al. patent discloses dynamically modifying the transmitting or receiving PN code parameters.

Applicant respectfully submits that neither the Minn et al. patent, nor the Trompower et al patent, alone or in combination, teaches or suggests the two-level spreading as claimed in independent claims 1 and 9. In the two-level spreading of the present invention, the total spreading gain for producing the second level-spread signal is equal to a product of the first

6

Application No. 10/084,241

spreading gain and the second spreading gain. The spreading gain is related to the number of chips per information data bit.

A non-limiting example of the two-level spreading according to one embodiment of the invention is described in the specification with reference to Fig. 1. Each data bit $b^{k,c}$, is spread by L_2 chips of first spreading code w^k and by L_1 chips of second spreading code p^c. As a result, the total spreading gain is equal to the product L_2L_1.

Applicant respectfully points out that the discussion of multiplication in col. 2, lines 23-46 of the Minn et al. patent (and cited in paragraph 1(b) of the Final Office Action) generally describes modulation in the context of an analog system. The Minn et al. patent explains that multiplication in the analog domain is equivalent to an exclusive-OR (XOR) operation for the digital (binary) domain. The Minn et al. patent does not describe multiplication of spreading gains to produce a product of the two spreading gains when combining the user-specific code with the cell-specific code. To the contrary, the Minn et al. patent states that the combined chip rate R_c is defined as the maximum of the Walsh code rate R_w and the PN code rate R_p (see col. 10, lines 4-9). This is characteristic of one-level spreading. In this regard, the Minn et al. patent teaches away from the two-level spreading claimed in claims 1 and 9.

None of the other cited references, either alone, or in any combination, teach or suggest two-level spreading as claimed. Therefore, Applicant respectfully submits that a *prima facie* case for obviousness has not been made, and cannot be made against independent claims 1 and 9.
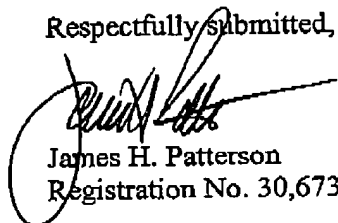
Dependent claims 2-8 further define claim 1, and dependent claim 10 further defines independent claim 9; therefore, these claims are also believed to be allowable.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-10 are respectfully requested.

7

Application No. 10/084,241

The Examiner is invited to telephone the undersigned if the Examiner believes it would

be useful to advance prosecution.

Respectfully submitted,

James H. Patterson
Registration No. 30,673

Customer No. 24113
Patterson, Thuente, Skaar & Christensen, P.A.
4800 IDS Center
80 South 8th Street
Minneapolis, Minnesota 55402-2100
Telephone: (612) 349-5741

8